ELSEVIER

Ultrasonics 36 (1998) 1029–1034

Ultrasonics

Author Index to Volume 36

Aarnink, R.G., Pathak, S.D., de la Rosette, J.J.M.C.H., Debruyne, F.M.J., Kim, Y. and Wijkstra, H.
Edge detection in prostatic ultrasound images using integrated edge maps 635
Abramov, O.V., see Abramov, V.O. 1013
Abramov, V.O., Abramov, O.V., Sommer, F., Gradov, O.M. and Smirnov, O.M.
Surface hardening of metals by ultrasonically accelerated small metal balls 1013
Abru, U., see Kropman, D. 1021
Aknine, A., see Castagnede, B. 323
Alippi, A., see Muzio, G. 553
Allard, J.F., see Lauriks, W. 865
Alleyne, D.N., see Lowe, M.J.S. 147
Antolovič, B., see Grabec, I. 263
Arai, K., see Nomura, H. 549
Arnold, W., see Hirsekorn, S. 491
Assaad, J., see Talbi, R. 47
Astashev, V.K. and Babitsky, V.I.
Ultrasonic cutting as a nonlinear (vibro-impact) process 89

Babitsky, V.I., see Astashev, V.K. 89
Baboux, J.C., see Saint-Pierre, N. 783
Baggs, R., see Phillips, D. 883
Baker, A.C., see Moussatov, A.G. 893
Barrow, D., see Hawkes, J.J. 925
Barrow, D., see Hawkes, J.J. 901
Bartels, K.A., see Kwun, H. 171
Bashford, A.G., see Hutchins, D.A. 1
Bashford, A.G. and Hutchins, D.A.
Non-destructive evaluation of green-state ceramics using micromachined air-coupled capacitance transducers 121
Benech, P., see Scandelari, L. 15
Benech, P., see Noury, N. 257
Berchiesi, G., see Vitali, G. 1003
Bettucci, A., see Muzio, G. 553
Bezemer, R.A., see Teirlinck, C.J.P.M. 653
Bharath, A.A., see Li, G. 879
Blahacek, M., see Prevorovsky, Z. 531
Blakey, J.R.
The potential for transducer characterisation from a single plane scan of intensity values alone 837
Blakey, J.R., see Esward, T.J. 667
Bleuze, A., see Noury, N. 257
Bojinski, S., see Stanullo, J. 455
Bom, N., Li, W., van der Steen, A.F.W., Lancée, C.T., Céspedes, E.I., Slager, C.J. and de Korte, C.L.
Intravascular imaging 625
Bossut, R., see de Billy, M. 995
Bou Matar, O., Remenieras, J.P., Bruneel, C., Roncin, A. and Patat, F.
Ultrasonic sensing of vibrations 391
Bouakaz, A., de Jong, N., Cachard, C. and Jouini, K.
On the effect of lung filtering and cardiac pressure on the standard properties of ultrasound contrast agent 703
Bouakaz, A., see Frinking, P.J.A. 709
Boudy, P., see Talbi, R. 47
Bouyer, C., see Laborde, J.-L. 581
Bouyer, C., see Laborde, J-L. 589
Briggs, A. and Kolosov, O.
Anisotropic elastic characterization of surfaces from 2 MHz to 20 GHz 317
Briggs, G.A.D., see Lefeuvre, O. 229
Brooks, R., see Hill, R. 517
Bruneel, C., see Labouret, S. 205
Bruneel, C., see Bou Matar, O. 391
Bucur, V. and Rasolofosaon, P.N.J.
Dynamic elastic anisotropy and nonlinearity in wood and rock 813
Burg, E., Kojro, Z. and Grill, W.
Synchronous determination of the rheological and acoustic properties of fluids using an oscillating fiber sensor and an ultrasonic microscope with phase contrast 483
Burgos, J., see Vercet, A. 615
Burkhardt, J.
Damage characterization using reverberant decays 471
Busse, G., see Stanullo, J. 455
Butin, L., Lhémery, A. and Calmon, P.
A model for predicting effects of surface wave propagation on the echo response from planar cracks 133

Cachard, C., see Bouakaz, A. 703
Calmon, P., see Butin, L. 133
Caltagirone, J.-P., see Laborde, J.-L. 581
Caltagirone, J.-P., see Laborde, J-L. 589
Carnell, M.T., Gentry, T.P. and Emmony, D.C.
The generation of negative pressure waves for cavitation studies 689
Castagnede, B., Aknine, A., Melon, M. and Depollier, C.
Ultrasonic characterization of the anisotropic behavior of air-saturated porous materials 323
Castaings, M. and Hosten, B.
The use of electrostatic, ultrasonic, air-coupled transducers to generate and receive Lamb waves in anisotropic, viscoelastic plates 361
Castellani, F., see Vitali, G. 1003
Cathignol, D., see Lafon, C. 683
Cathignol, D., see Jossinet, J. 607
Cawley, P., see Lowe, M.J.S. 147
Cefai, J., see Hawkes, J.J. 901
Céspedes, E.I., see Bom, N. 625
Chamberod, E., see Scandelari, L. 15
Chamberod, E., see Noury, N. 257
Chandra, S., see Jain, S.K. 37
Chapelon, J.Y., see Lafon, C. 683
Chauhan, S., see Syal, V.K. 619
Chen, X., see Phillips, D. 883
Chen, Y.J., Shi, Y.W. and Zhang, X.P.
Detection of weak bonding in friction welds by ultrasound 141
Chimenti, D.E. and Lobkis, O.I.
The effect of rough surfaces on guided waves in plates 155
Chivers, R.C., see Feeney, F.E. 449

0041-624X/98/$ - see front matter © 1998 Elsevier Science B.V. All rights reserved.
PII: S0041-624X(98)00043-2

Chrisler, W.B., see Miller, D.L. 947
Chun, S., see Song, L.-P. 1009
Ciuti, P., Dezhkunov, N.V., Iernetti, G. and Kulak, A.I.
Cavitation phenomena in pulse modulated ultrasound fields 569
Clarke, A.R., see Enderby, M.D. 245
Coakley, W.T., see Hawkes, J.J. 925
Coakley, W.T., see Hawkes, J.J. 901
Cochran, A., Reynolds, P. and Hayward, G.
Progress in stacked piezocomposite ultrasonic transducers for low frequency applications 969
Comins, J.D., see Every, A.G. 223
Coulette, R., Lafond, E., Nadal, M.-H., Gondard, C., Lepoutre, F. and Pétillon, O.
Laser-generated ultrasound applied to two-layered materials characterization: semi-analytical model and experimental validation 239
Craciun, F., Guidarelli, G., Galassi, C. and Roncari, E.
Elastic wave propagation in porous piezoelectric ceramics 427
Craciun, F., see Guidarelli, G. 467

de Belleval, J.-F., see Rehman, A.-U. 343
de Billy, M., Hladky-Hennion, A.C. and Bossut, R.
On the localization of the antisymmetric flexural edge waves for obtuse angles 995
de Carvalho, L.R.F., see Souza, S.R. 595
de Jong, N., see Bouakaz, A. 703
de Jong, N., see Frinking, P.J.A. 709
de Korte, C.L., see Ignacio Céspedes, E. 661
de Korte, C.L., see Bom, N. 625
de Kroon, M., see Volker, A. 283
de la Rosette, J.J.M.C.H., see Aarnink, R.G. 635
Debruyne, F.M.J., see Aarnink, R.G. 635
Delannay, F., see Van Hauwaert, A. 209
Depollier, C., see Castagnede, B. 323
Derode, A., Tourin, A. and Fink, M.
Time reversal in multiply scattering media 443
Dezhkunov, N.V., see Ciuti, P. 569
Downey, D., see Fenster, A. 629
Duck, F.A., see Moussatov, A.G. 893
Ducret, P., see Journeau, C. 251

Emmony, D.C., see Carnell, M.T. 689
Emmony, D.C., see Schiffers, W.P. 559
Enderby, M.D., Clarke, A.R., Patel, M., Ogden, P. and Johnson, A.A.
An automated ultrasonic immersion technique for the determination of three-dimensional elastic constants of polymer composites 245
Enoki, M., see Kim, B.-G. 825
Esward, T.J. and Blakey, J.R.
Development of a novel system for measurement of the angular scattering of ultrasound by inhomogeneous materials 667
Evertsen, J.A., see Jordan, R. 219
Evertsen, J.A., see Feeney, F.E. 449
Every, A.G., Pang, W., Comins, J.D. and Stoddart, P.R.
Brillouin scattering study of guided modes in TiN films on high-speed steel 223
Every, A.G., Kim, K.Y. and Maznev, A.A.
Surface dynamic response functions of anisotropic solids 349

Farrelly, F., see Muzio, G. 553
Feeney, F., see Jordan, R. 219
Feeney, F.E., Chivers, R.C., Evertsen, J.A. and Keating, J.
The influence of inhomogeneity on the propagation of ultrasound in wood 449
Fenster, A., Lee, D., Sherebrin, S., Rankin, R. and Downey, D.
Three-dimensional ultrasound imaging of the vasculature 629
Ferry, L., see Prevorovsky, Z. 531
Feuillard, G., see Levassort, F. 41
Filipow, L.J., see Ji, Q. 759
Fink, M., see Ing, R.K. 179
Fink, M., see Derode, A. 443
Fish, P., see Teirlinck, C.J.P.M. 653
Forest, L., Gibiat, V. and Woignier, T.
Evolution of the acoustical properties of silica alcogels during their formation 477
Forsberg, F., Merton, D.A., Liu, J.B., Needleman, L. and Goldberg, B.B.
Clinical applications of ultrasound contrast agents 695
Fredfeldt, K.-E., see Teirlinck, C.J.P.M. 653
Frinking, P.J.A, Bouakaz, A., de Jong, N., Ten Cate, F.J. and Keating, S.
Effect of ultrasound on the release of micro-encapsulated drugs 709
Frohly, J., see Labouret, S. 205
Frohly, J., see Labouret, S. 603
Fuchino, S., see Nomura, H. 549

Galassi, C., see Craciun, F. 427
Galassi, C., see Guidarelli, G. 467
Gautam, R., see Syal, V.K. 619
Gentry, T.P., see Carnell, M.T. 689
Gérard, A., see Laborde, J.-L. 581
Gérard, A., see Laborde, J-L. 589
Germano, M., see Muzio, G. 553
Ghosh, T., Kundu, T. and Karpur, P.
Efficient use of Lamb modes for detecting defects in large plates 791
Gibiat, V., see Forest, L. 477
Gilbert, R.P., Scotti, T., Wirgin, A. and Xu, Y.S.
Identification of a 3D void or inclusion in a plate by inversion of the diffracted wavefield 115
Gold, N., see Stanullo, J. 455
Goldberg, B.B., see Forsberg, F. 695
Goldschmidt, S., see Kümmel, M. 103
Gómez, T.E., Montero de Espinosa, F., Levassort, F., Lethiecq, M., James, A., Ringgård, E., Millar, C.E. and Hawkins, P.
Ceramic powder–polymer piezocomposites for electroacoustic transduction: modeling and design 907
Gondard, C., see Coulette, R. 239
Gondard, C., see Nadal, M.-H. 505
Goode, B.J., Jones, R.D. and Howells, J.N.H.
Ultrasonic pickling of steel strip 79
Gorry, F., see Lafon, C. 683
Govekar, E., see Grabec, I. 263
Grabec, I., Govekar, E., Susič, E. and Antolovič, B.
Monitoring manufacturing processes by utilizing empirical modeling 263
Grabec, I., Kosel, T. and Mužič, P.
Location of continuous AE sources by sensory neural networks 525
Grabec, I., see Lu, X. 539
Gradov, O.M., see Abramov, V.O. 1013
Grill, W., see Kim, T.J. 233
Grill, W., see Schmachtl, M. 291
Grill, W., see Schubert, M. 367
Grill, W., Hillmann, K. and Knauth, S.
Scanning second sound microscopy with phase and amplitude contrast 409
Grill, W., see Ndop, J. 461
Grill, W., see Burg, E. 483
Grill, W., see Kojro, Z. 513
Gudra, T., see Kojro, Z. 513
Guidarelli, G., see Craciun, F. 427
Guidarelli, G., Craciun, F., Galassi, C. and Roncari, E.
Ultrasonic characterisation of solid–liquid suspensions 467
Gupta, R., see Jain, S.K. 37
Guy, P., see Saint-Pierre, N. 783

Haine, F., see Talbi, R. 47

Haine, F., see Labouret, S. 603
Hawkes, J.J., Barrow, D. and Coakley, W.T.
Microparticle manipulation in millimetre scale ultrasonic standing wave chambers 925
Hawkes, J.J., Barrow, D., Cefai, J. and Coakley, W.T.
A laminar flow expansion chamber facilitating downstream manipulation of particles concentrated using an ultrasonic standing wave 901
Hawkins, P., see Gómez, T.E. 907
Hayward, G., see Cochran, A. 969
Heilingbrunner, A., see Schätzle, U. 679
Hekkenberg, R.T.
Characterising ultrasonic physiotherapy systems by performance and safety now internationally agreed 713
Higuchi, N., see Nomura, H. 549
Hill, R., Brooks, R. and Kaloedes, D.
Characterization of transverse failure in composites using acoustic emission 517
Hillmann, K., see Grill, W. 409
Hirsekorn, S. and Arnold, W.
High-resolution materials characterization by conventional and near-field acoustic microscopy 491
Hladky-Hennion, A.C., see de Billy, M. 995
Honarvar, F. and Sinclair, A.N.
Nondestructive evaluation of cylindrical components by resonance acoustic spectroscopy 845
Hornowski, T., see Skumiel, A. 421
Horvat, D., Možina, J., Žun, I. and Perpar, M.
Laser ultrasonics for bubbly flow detection 565
Hoskins, P.R., see Teirlinck, C.J.P.M. 653
Hosten, B., see Castaings, M. 361
Howells, J.N.H., see Goode, B.J. 79
Hoyle, B.S., see Schlaberg, H.I. 297
Huebner, W., see K.Liang 979
Hull, J.B., see Jones, A.R. 97
Hurley, D.H. and Spicer, J.B.
Laser-generated ultrasound in single-crystal Mindlin-type plates: theory and experiment 987
Hurley, D.H., Spicer, J.B., Wagner, J.W. and Murray, T.W.
Investigation of the anisotropic nature of laser-generated ultrasound in zinc and unidirectional carbon epoxy composites 355
Hutchins, D.A., Schindel, D.W., Bashford, A.G. and Wright, W.M.D.
Advances in ultrasonic electrostatic transduction 1
Hutchins, D.A., see Bashford, A.G. 121

Iernetti, G., see Ciuti, P. 569
Ignacio Céspedes, E., de Korte, C.L. and van der Steen, A.F.W.
Echo decorrelation from displacement gradients 661
Imamura, T.
Specific acoustic impedance of the ultrasonic field by the circular flat transducers 751
Inasaki, I.
Application of acoustic emission sensor for monitoring machining processes 273
Ing, R.K. and Fink, M.
Self-focusing and time recompression of Lamb waves using a time reversal mirror 179
Ishii, I., see Nomura, H. 549
Iwamoto, N., see Tsujino, J. 67

Jackson, S.A., see Ji, Q. 759
Jain, S.K., Gupta, R. and Chandra, S.
Evaluation of acoustical characteristics of ultrasonic transducer backing materials at high hydrostatic pressures 37
James, A., see Gómez, T.E. 907
Jayet, Y., see Saint-Pierre, N. 783
Jenne, J., see Schätzle, U. 679
Ji, Q., Le, L.H., Filipow, L.J. and Jackson, S.A.
Ultrasonic wave propagation in water-saturated aluminum foams 759
Jin, X.C., see Ladabaum, I. 25
Johnson, A.A., see Enderby, M.D. 245
Jones, A.R. and Hull, J.B.
Ultrasonic flow polishing 97
Jones, R.D., see Goode, B.J. 79
Jordan, R., Feeney, F., Nesbitt, N. and Evertsen, J.A.
Classification of wood species by neural network analysis of ultrasonic signals 219
Joshi, S.G., see Zaitsev, B.D. 31
Joshi, S.G., see Zaitsev, B.D. 397
Jossinet, J., Lavandier, B. and Cathignol, D.
The phenomenology of acousto-electric interaction signals in aqueous solutions of electrolytes 607
Jouini, K., see Bouakaz, A. 703
Journeau, C. and Ducret, P.
Towards in-situ ultrasonic transmission measurement of melt crusts above 2000C 251

Kaiho, K., see Nomura, H. 549
Kajikawa, K., see Nomura, H. 549
Kalinin, A.V., see Noury, N. 257
Kaloedes, D., see Hill, R. 517
Kamimoto, K., see Tsujino, J. 59
Kaneko, S., see Takeda, K. 75
Kaneko, S., Kunihiko, T., Yamamori, H. and Kanji, O.
Load characteristics of bolted Langevin torsional transducer II 111
Kärner, T., see Kropman, D. 1021
Karpur, P., see Ghosh, T. 791
Kawashima, K., see Okade, M. 933
Keating, J., see Feeney, F.E. 449
Keating, S., see Frinking, P.J.A. 709
Kelders, L., see Lauriks, W. 865
Khuri-Yakub, B.T., see Ladabaum, I. 25
Kim, B.-G., Lee, S., Enoki, M. and Kishi, T.
Development and application of ultrasonic transducer for intensive focusing of Rayleigh waves 825
Kim, K.Y., see Every, A.G. 349
Kim, T.J. and Grill, W.
Determination of the velocity of ultrasound by short pulse switched sinusoidal excitation and phase-sensitive detection by a computer-controlled pulse-echo system 233
Kim, T.J., see Ndop, J. 461
Kim, T.J., see Kojro, Z. 513
Kim, Y., see Aarnink, R.G. 635
Kishi, T., see Kim, B.-G. 825
Knauth, S., see Grill, W. 409
Koch, C., Ludwig, G. and Molkenstruck, W.
Calibration of a fiber tip ultrasonic sensor up to 50 MHz and the application to shock wave measurement 721
Kojro, Z., see Burg, E. 483
Kojro, Z., Kim, T.J., Schmachtl, M., Schubert, M., Gudra, T. and Grill, W.
Confocal scanning acoustic air microscope with phase contrast 513
Kollmann, C., see Teirlinck, C.J.P.M. 653
Kolosov, O., see Briggs, A. 317
Korn, M., see Souza, S.R. 595
Korn, M.G.A., see Souza, S.R. 595
Kosel, T., see Grabec, I. 525
Kropman, D., Poll, V., Tambek, L., Kärner, T. and Abru, U.
Effect of ultrasonic treatment on the defect structure of the Si–SiO_2 system 1021
Kulak, A.I., see Ciuti, P. 569
Kümmel, M., Goldschmidt, S. and Wallaschek, J.
Theoretical and experimental studies of a piezoelectric ultrasonic linear motor with respect to damping and nonlinear material behaviour 103

Kundu, T., see Ghosh, T. 791
Kunkel, H., see Liang, K. 979
Kuo, M.K., Lin, T.R., Liu, P.L. and Wu, T.T.
Locating the crack tip of a surface-breaking crack. Part I. Line crack 803
Kuznetsova, I.E., see Zaitsev, B.D. 31
Kuznetsova, I.E., see Zaitsev, B.D. 397
Kuznetsova, I.E., Zaitsev, B.D., Polyakov, P.V. and Mysenko, M.B.
External electric field effect on the properties of Bleustein–Gulyaev surface acoustic waves in lithium niobate and strontium titanate 431
Kwiek, P., Molkenstruck, W. and Reibold, R.
Optical mapping of ultrasonic fields using Bragg incidence 775
Kwun, H. and Bartels, K.A.
Magnetostrictive sensor technology and its applications 171

Laborde, J.-L., Bouyer, C., Caltagirone, J.-P. and Gérard, A.
Acoustic cavitation field prediction at low and high frequency ultrasounds 581
Laborde, J-L., Bouyer, C., Caltagirone, J.-P. and Gérard, A.
Acoustic bubble cavitation at low frequencies 589
Labouret, S., Looten-Baquet, I., Bruneel, C. and Frohly, J.
Ultrasound method for monitoring rheology properties evolution of cement 205
Labouret, S., Looten-Baquet, I., Frohly, J. and Haine, F.
Influence of characteristic parameters on the void rate in an acoustic cavitation bubble field 603
Łabowski, M., see Skumiel, A. 421
Ladabaum, I., Jin, X.C. and Khuri-Yakub, B.T.
Miniature drumheads: microfabricated ultrasonic transducers 25
Lafon, C., Chapelon, J.Y., Prat, F., Gorry, F., Theillère, Y. and Cathignol, D.
Design and in vitro results of a high intensity ultrasound interstitial applicator 683
Lafond, E., see Coulette, R. 239
Lan, C.Q., see Yu, M. 941
Lancée, C.T., see Bom, N. 625
Landa, M., see Prevorovsky, Z. 531
Lauriks, W., Kelders, L. and Allard, J.F.
Surface waves above gratings having a triangular profile 865
Lavandier, B., see Jossinet, J. 607
Le, L.H., see Ji, Q. 759
Lebrun, P., see Nadal, M.-H. 505
Lee, D., see Fenster, A. 629
Lee, S., see Kim, B.-G. 825
Lefeuvre, O., Zinin, P. and Briggs, G.A.D.
Leaky surface waves propagating on a fast on slow system and the implications for material characterization 229
Lepoutre, F., see Coulette, R. 239
Lethiecq, M., see Gómez, T.E. 907
Lethiecq, M., see Levassort, F. 41
Levassort, F., see Gómez, T.E. 907
Levassort, F., Tran Huu Hue, L.P., Feuillard, G. and Lethiecq, M.
Characterisation of P(VDF–TrFE) material taking into account dielectric relaxation: application to modelling of high frequency transducers 41
Lezhnev, N.B., see Linde, B.B.J. 959
Lhémery, A., see Butin, L. 133
Li, G. and Bharath, A.A.
A novel family of limited diffraction, wideband ultrasonic wave pulses 879
Li, W., see Bom, N. 625
Liang, K., Kunkel, H., Oakley, C., and Huebner, W.
Acoustic characterization of ultrasonic transducer materials: I. Blends of rigid and flexible epoxy resins used in piezocomposites 979
Lin, T.R., see Kuo, M.K. 803
Linde, B.B.J. and Lezhnev, N.B.
The effect of bond saturation in five-membered heterocyclic compounds upon their acoustic properties – VT energy migration rate 959
Liu, H.-w., see Song, L.-p. 1009
Liu, J.B., see Forsberg, F. 695
Liu, P.-L., see Wu, T.-T. 197
Liu, P.L., see Kuo, M.K. 803
Liu, Y., Lynnworth, L.C. and Zimmerman, M.A.
Buffer waveguides for flow measurement in hot fluids 305
Liu, Z.L., see Yu, M. 941
Lobkis, O.I., see Chimenti, D.E. 155
Looten-Baquet, I., see Labouret, S. 205
Looten-Baquet, I., see Labouret, S. 603
Lopez, P., see Vercet, A. 615
Lowe, M.J.S., Alleyne, D.N. and Cawley, P.
Defect detection in pipes using guided waves 147
Lu, X., Sachse, W. and Grabec, I.
Use of an automatic modeler and a small receiver array for acoustic emission (AE) source location 539
Lubbers, J., see Teirlinck, C.J.P.M. 653
Ludwig, G., see Koch, C. 721
Lynnworth, L.C., see Liu, Y. 305

Mahaut, S., Roy, O. and Serre, M.
An adaptive system for advanced NDT applications using phased arrays 127
Maznev, A.A., see Every, A.G. 349
Melon, M., see Castagnede, B. 323
Merton, D.A., see Forsberg, F. 695
Millar, C.E., see Gómez, T.E. 907
Miller, D.L., Williams, A.R., Morris, J.E. and Chrisler, W.B.
Sonoporation of erythrocytes by lithotripter shockwaves in vitro 947
Mizariene, V., see Snitka, V. 499
Molkenstruck, W., see Kwiek, P. 775
Molkenstruck, W., see Koch, C. 721
Montero de Espinosa, F., see Gómez, T.E. 907
Morris, J.E., see Miller, D.L. 947
Moussatov, A.G., Baker, A.C. and Duck, F.A.
A possible approach to the treatment of polycystic ovarian syndrome using focused ultrasound 893
Možina, J., see Horvat, D. 565
Murphy, J., see Peterson, M.L. 855
Murray, T.W., see Hurley, D.H. 355
Mužič, P., see Grabec, I. 525
Muzio, G., Alippi, A., Bettucci, A., Farrelly, F. and Germano, M.
A numerical method for studying nonlinear bubble oscillations in acoustic cavitation 553
Mysenko, M.B., see Kuznetsova, I.E. 431

Nadal, M.-H., see Coulette, R. 239
Nadal, M.-H., Lebrun, P. and Gondard, C.
Prediction of the impulse response of materials using a SAM technique in the MHz frequency range with a lensless cylindrical-focused transducer 505
Nagy, P.B.
Fatigue damage assessment by nonlinear ultrasonic materials characterization 375
Natori, N., see Nomura, H. 549
Ndop, J., Kim, T.J. and Grill, W.
Spatially resolved characterization of materials by scanning nonfocal surface focused transmission acoustic microscopy with phase contrast 461
Needleman, L., see Forsberg, F. 695
Nesbitt, N., see Jordan, R. 219

Noguchi, Y., see Yamakoshi, Y. 873
Nomura, H., Kaiho, K., Ishii, I., Higuchi, N., Fuchino, S., Tateishi, H., Sekine, S., Arai, K., Natori, N., Kajikawa, K., Yamaguchi, H. and Tamada, N.
AE spectra during super-to-normal transition in a superconducting rotor 549
Noury, N., see Scandelari, L. 15
Noury, N., Chamberod, E., Benech, P., Kalinin, A.V. and Bleuze, A.
An instrumentation based on the piezopolymer P(VDF–TrFE) for the analysis of the elastical parameters of rocks under stress 257

Oakley C., see Liang, K. 979
Ogden, P., see Enderby, M.D. 245
Ohtsu, M., Shigeishi, M. and Sakata, Y.
Nondestructive evaluation of defects in concrete by quantitative acoustic emission and ultrasonics 187
Ohya, K., see Kaneko, S. 111
Okade, M. and Kawashima, K.
Local stress measurement on polycrystalline aluminum by an acoustic microscope 933
Osada, Y., see Tsujino, J. 59

Pang, W., see Every, A.G. 223
Parker, K.J., see Phillips, D. 883
Patat, F., see Bou Matar, O. 391
Patel, M., see Enderby, M.D. 245
Pathak, S.D., see Aarnink, R.G. 635
Pelts, S.P., see Rose, J.L. 163
Perpar, M., see Horvat, D. 565
Perreux, D., see Prevorovsky, Z. 531
Peterson, M.L., Srinath, S. and Murphy, J.
A waveguide-based acoustic microscope 855
Pétillon, O., see Coulette, R. 239
Phillips, D., Chen, X., Baggs, R., Rubens, D., Violante, M. and Parker, K.J.
Acoustic backscatter properties of the particle/bubble ultrasound contrast agent 883
Poll, V., see Kropman, D. 1021
Polyakov, P.V., see Kuznetsova, I.E. 431
Potel, C., see Rehman, A.-U. 343
Prat, F., see Lafon, C. 683
Prevorovsky, Z., Landa, M., Blahacek, M., Varchon, D., Rousseau, J., Ferry, L. and Perreux, D.
Ultrasonic scanning and acoustic emission of composite tubes subjected to multiaxial loading 531

Quarry, M.J., see Rose, J.L. 163

Rackaitis, M., see Snitka, V. 499
Ranachowski, P., see Rzeszotarska, J. 953
Rankin, R., see Fenster, A. 629
Rasolofosaon, P.N.J., see Bucur, V. 813
Rehman, A.-U., Potel, C. and de Belleval, J.-F.
Numerical modeling of the effects on reflected acoustic field for the changes in internal layer orientation of a composite 343
Reibold, R., see Kwiek, P. 775
Rejmund, F., see Rzeszotarska, J. 953
Remenieras, J.P., see Bou Matar, O. 391
Reuner, T., see Schätzle, U. 679
Reynolds, P., see Cochran, A. 969
Ringgård, E., see Gómez, T.E. 907
Riza, N.A.
High speed tunable bandwidth ultrasonic array beam steering using ultra-compact photonics 21
Roncari, E., see Craciun, F. 427
Roncari, E., see Guidarelli, G. 467
Roncin, A., see Bou Matar, O. 391
Rose, J.L., Pelts, S.P. and Quarry, M.J.
A comb transducer model for guided wave NDE 163
Rousseau, J., see Prevorovsky, Z. 531
Rouvaen, J.-M., see Talbi, R. 47
Roy, O., see Mahaut, S. 127
Rubens, D., see Phillips, D. 883
Rzeszotarska, J., Rejmund, F. and Ranachowski, P.
Acoustic emission measurement of foam evolution in H_2O–C_2H_5OH–air systems with content of detergent triton X-100 953

Sachse, W., see Lu, X. 539
Saint-Pierre, N., Jayet, Y., Guy, P. and Baboux, J.C.
Ultrasonic evaluation of dispersive polymers by the piezoelectric embedded element method: modeling and experimental validation 783
Sakata, Y., see Ohtsu, M. 187
Salcocci, S., see Vitali, G. 1003
Santini, C., see Vitali, G. 1003
Scandelari, L., Noury, N., Benech, P. and Chamberod, E.
A sensor for liquids characterization based on elastic surface waves generated with a P(VF_2–VF_3) film in a non-piezoelectric media 15
Schaarschmidt, U.G., see Teirlinck, C.J.P.M. 653
Schätzle, U., Reuner, T., Jenne, J. and Heilingbrunner, A.
Quality assurance tools for therapeutic ultrasound 679
Schievenbusch, A., see Schmachtl, M. 291
Schiffers, W.P., Shaw, S.J. and Emmony, D.C.
Acoustical and optical tracking of the collapse of a laser-generated cavitation bubble near a solid boundary 559
Schindel, D.W., see Hutchins, D.A. 1
Schlaberg, H.I., Yang, M. and Hoyle, B.S.
Ultrasound reflection tomography for industrial processes 297
Schmachtl, M., Schievenbusch, A., Zimmermann, G. and Grill, W.
Crystallization process control during directional solidification in a high-temperature-gradient furnace by guided ultrasonic waves and real-time signal evaluation 291
Schmachtl, M., see Kojro, Z. 513
Schubert, M. and Grill, W.
Determination of the group and phase velocity surfaces of acoustic waves in anisotropic materials by ultrasonic acoustic microscopy with phase contrast 367
Schubert, M., see Kojro, Z. 513
Scotti, T. and Wirgin, A.
Real-time sonomammography based on the intersecting canonical body approximation of the diffracted wave field 643
Scotti, T., see Gilbert, R.P. 115
Sekine, S., see Nomura, H. 549
Serre, M., see Mahaut, S. 127
Shapiro, S., see Stanullo, J. 455
Shaw, S.J., see Schiffers, W.P. 559
Sherebrin, S., see Fenster, A. 629
Shi, Y., see Wooh, S.-C. 737
Shi, Y.W., see Chen, Y.J. 141
Shigeishi, M., see Ohtsu, M. 187
Shilo, D., see Zolotoyabko, E. 403
Sinclair, A.N., see Honarvar, F. 845
Skumiel, A., Hornowski, T. and Łabowski, M.
Resonance absorption of the ultrasonic waves in magnetic liquids in DC magnetic field 421
Slager, C.J., see Bom, N. 625
Smirnov, O.M., see Abramov, V.O. 1013
Snitka, V., Ulcinas, A., Rackaitis, M. and Mizariene, V.
Ultrasonic surface vibration investigation by atomic force microscopy 499
Solodov, I.Y.
Ultrasonics of non-linear contacts: propagation, reflection and NDE-applications 383
Sommer, F., see Abramov, V.O. 1013

Song, L.-p., Liu, H.-w., Chun, S., Song, Z.-z. and Zhang, S.-y.
Mapping an underground rock mass by anisotropic acoustical transmission tomography 1009
Song, Z.-z., see Song, L.-p. 1009
Sotiropoulos, D.A. and Tougelidis, G.
Guided elastic waves in orthotropic surface layers 371
Souza, S.R., Korn, M., de Carvalho, L.R.F., Korn, M.G.A. and Tavares, M.F.M.
Multi-parametric evaluation of the chemical ultrasonic irradiation effects in a heterogeneous metal–water system 595
Spicer, J.B., see Hurley, D.H. 987
Spicer, J.B., see Hurley, D.H. 355
Srinath, S., see Peterson, M.L. 855
Stanullo, J., Bojinski, S., Gold, N., Shapiro, S. and Busse, G.
Ultrasonic signal analysis to monitor damage development in short fiber-reinforced polymers 455
Stoddart, P.R., see Every, A.G. 223
Susič, E., see Grabec, I. 263
Syal, V.K., Chauhan, S. and Gautam, R.
Ultrasonic velocity measurements of carbohydrates in binary mixtures of DMSO + H_2O at 25C 619

Takeda, K., Tanaka, H., Tsuchiya, T. and Kaneko, S.
Molecular movement during welding for engineering plastics using Langevin transducer equipped with half-wave-length step horn 75
Takeda, K., see Kaneko, S. 111
Talbi, R., Assaad, J., Rouvaen, J.-M., Boudy, P. and Haine, F.
Application of the angular spectrum approach to compute the far-field pressure 47
Tamada, N., see Nomura, H. 549
Tambek, L., see Kropman, D. 1021
Tanaka, H., see Takeda, K. 75
Tapson, J.
Stochastic resonance in a mode locked acoustic interferometer 415
Tapson, J.
Wavemode locking: a new measurement modality for proximity sensors 53
Tateishi, H., see Nomura, H. 549
Tavares, M.F.M., see Souza, S.R. 595
Teirlinck, C.J.P.M., Bezemer, R.A., Kollmann, C., Lubbers, J., Hoskins, P.R., Fish, P., Fredfeldt, K.-E. and Schaarschmidt, U.G.
Development of an example flow test object and comparison of five of these test objects, constructed in various laboratories 653
Ten Cate, F.J., see Frinking, P.J.A. 709
Theillère, Y., see Lafon, C. 683
Thimus, J.-F., see Van Hauwaert, A. 209
Thuraisingham, R.A.
Sound speed in bubbly water at megahertz frequencies 767
Tougelidis, G., see Sotiropoulos, D.A. 371
Tourin, A., see Derode, A. 443
Tran Huu Hue, L.P., see Levassort, F. 41
Tsuchiya, T., see Takeda, K. 75
Tsujino, J., Uchida, T., Yamano, K., Iwamoto, N. and Ueoka, T.
Welding characteristics of ultrasonic plastic welding using two-vibration-system of 90 kHz and 27 or 20 kHz and complex vibration systems 67
Tsujino, J., Yoshihara, H., Kamimoto, K. and Osada, Y.
Welding characteristics and temperature rise of high frequency and complex vibration ultrasonic wire bonding 59

Uchida, T., see Tsujino, J. 67
Ueoka, T., see Tsujino, J. 67
Ulcinas, A., see Snitka, V. 499
van der Steen, A.F.W., see Bom, N. 625
Van Hauwaert, A., Thimus, J.-F. and Delannay, F.
Use of ultrasonics to follow crack growth 209
van der Steen, A.F.W., see Ignacio Céspedes, E. 661
Varchon, D., see Prevorovsky, Z. 531
Vellekoop, M.J.
Acoustic wave sensors and their technology 7
Vercet, A., Lopez, P. and Burgos, J.
Free radical production by manothermosonication 615
Violante, M., see Phillips, D. 883
Vitali, G., Salcocci, S., Santini, C., Berchiesi, G. and Castellani, F.
Viscoelastic investigation by ultrasonic shear waves of liquid eutectic mixture methylurea–ammonium sulfamate 1003
Volker, A. and de Kroon, M.
Characterization of suspensions by ultrasonic reflection measurements 283

Wagner, J.W., see Hurley, D.H. 355
Wallaschek, J., see Kümmel, M. 103
Weaver, R.
Ultrasonics in an aluminum foam 435
Wijkstra, H., see Aarnink, R.G. 635
Williams, A.R., see Miller, D.L. 947
Wirgin, A., see Scotti, T. 643
Wirgin, A., see Gilbert, R.P. 115
Woignier, T., see Forest, L. 477
Wooh, S.-C. and Shi, Y.
Influence of phased array element size on beam steering behavior 737
Wright, W.M.D., see Hutchins, D.A. 1
Wu, T.-T. and Liu, P.-L.
Advancement on the nondestructive evaluation of concrete using transient elastic waves 197
Wu, T.T., see Kuo, M.K. 803

Xu, K.K., see Yu, M. 941
Xu, Y.S., see Gilbert, R.P. 115

Yamaguchi, H., see Nomura, H. 549
Yamakoshi, Y. and Noguchi, Y.
Micro particle trapping by opposite phases ultrasonic travelling waves 873
Yamamori, H., see Kaneko, S. 111
Yamano, K., see Tsujino, J. 67
Yang, M., see Schlaberg, H.I. 297
Yasui, K.
Effect of non-equilibrium evaporation and condensation on bubble dynamics near the sonoluminescence threshold 575
Yoshihara, H., see Tsujino, J. 59
Yu, M., Lan, C.Q., Xu, K.K. and Liu, Z.L.
The vertical attenuation and tomography of Rayleigh waves 941

Zaitsev, B.D., Kuznetsova, I.E. and Joshi, S.G.
Theoretical and experimental investigation of QSH (quasi shear horizontal) acoustic waves 31
Zaitsev, B.D., Kuznetsova, I.E. and Joshi, S.G.
Acoustic wave devices for measuring characteristics of single high-power microwave pulses 397
Zaitsev, B.D., see Kuznetsova, I.E. 431
Zhang, S.-y., see Song, L.-p. 1009
Zhang, X.P., see Chen, Y.J. 141
Zimmerman, M.A., see Liu, Y. 305
Zimmermann, G., see Schmachtl, M. 291
Zinin, P., see Lefeuvre, O. 229
Zolotoyabko, E. and Shilo, D.
Control of static strains in crystals by the dynamic pressure of phonon flow 403
Žun, I., see Horvat, D. 565

ELSEVIER

Ultrasonics 36 (1998) 1035–1037

Ultrasonics

Subject Index to Volume 36

Acoustical characteristics, 37
Acoustical transmission tomography, 1009
Acoustic black spot, 873
Acoustic cavitation, 553, 581
Acoustic emission, 187, 263, 517, 525, 531, 549, 953
Acoustic emission source location, 539
Acoustic impedance, 205, 751
Acoustic load resistance, 111
Acoustic microscopy, 229, 317, 491, 505, 855, 933
Acoustic output measurements, 713
Acoustic properties, 979
Acoustic radiation force, 873
Acoustic wave sensors, 7
Acousto-optics, 775
Acoustoelasticity, 933
Adaptive filtering, 635
Adaptive focusing, 127
Adaptive testing, 127
AE sensor, 273
Air-coupled, 1
Air-coupled through-transmission, 25
Air-coupled ultrasound, 121
Allard theory, 323
Aluminum foam, 759
Angular scattering, 667
Angular spectrum analysis, 343
Angular spectrum approach, 47
Anisotropic materials, 219
Anisotropic media, 367
Anisotropic tortuosity, 323
Anisotropy, 323, 349, 355, 371, 813, 1009
Aqueous solution, 607
Artificial neural network, 273
Artificial neural networks, 531
Atomic force microscope, 499
Atomic force microscopy, 491
Attenuation, 427, 467
Automated instrumentation, 245
Automatic modeler, 539
Autoresonance, 89
Axial stress pattern, 825

Backscattering, 667
Beam characterisation, 713
Beam directivity, 737
Biot's theory, 759
Biot theory, 323
Bleustein–Gulyaev wave, 431
Blood flow quantification, 625
Blood velocity, 625
Bone properties, 855
Brillouin scattering, 223
Brillouin spectroscopy, 317
Bubble, 883
Bubble dynamics, 575
Bubble size distribution, 603
Bubbly flow, 565
Bubbly water, 767
Buffer waveguide, 305

Capacitance, 1
Capacitive ultrasonic transducer, 25
Cardiac pressure, 703
Carotid disease, 629
Carrier frequency, 397
Cavitation, 79, 569, 575, 603, 689
Cavitation bubble collapse, 559
Cell permeabilization, 947
Cell separation, 925
Cellular structures, 435
Cement, 205
Ceramic, 121
Ceramic capillary, 59
Characterisation, 837
Characteristic lengths, 323
Characterization, 907
Chemical changes, 477
Chemotherapy, 947
Clamp-on, 305
Classification, 219
Cleaning, 79
Ciusters, 421
Comb transducer, 163
Complex geometry, 127
Complex vibration locus, 67
Complex vibration plastic welding, 67
Complex vibration wire bonding, 59
Composite materials, 531
Composites, 343, 355, 517
Concrete, 187, 197, 205, 209
Condition monitoring, 171
Constants, 813
Contact acoustic non-linearity, 383
Continuous flow filtration, 901
Continuous wave, 53
Contrast, 883
Contrast agent, 703
Contrast agents, 695
Crack, 197
Crack length measurement, 803
Crack tip localization, 803
Cross-correlation, 661, 855
Crusts, 251
Crystallization, 291
Crystals, 367
Curvature, 403
Cutting, 273

Damage development, 455
Damping, 103
Decay curvature, 471
Decorrelation, 661
Defect characterization, 127
Defect detection, 171, 791
Defects, 187
Defect structure, 1021
Deformation, 1013
Deformation of wire specimen, 59
Density, 619
Dielectric relaxation, 41
Diffuse fields, 435
Directional solidification, 291
Dispersion curves, 163
Displacement gradient, 661
Drainage of foam, 953
Drug delivery, 709
Dynamic measurements, 499
Dynamic response, 349
Dynamic steering, 737

Edge detection, 635
Edge resolution, 635
Edge waves, 995
Elastic, 813
Elastic components, 449
Elastic constant, 197
Elastic guided waves, 371
Elastic parameters, 257
Elastography, 625
Electrical conductivity, 1003
Electric conductivity, 607
Electric field effect, 431
Electric impedance, 783
Electric (magnetic) field intensity, 397
Electroacouastical efficiency, 111
Electrolyte, 607
Electrostatic, 1
Element width, 737
Empirical modeling, 263
Empirical modelling, 525
Entanglement, 75
Epoxy blends, 979
ESR, 1021
Experiment, 239
Factor analysis, 595
Far-field pressures, 47

0041-624X/98/$ - see front matter © 1998 Elsevier Science B.V. All rights reserved.
PII: S0041-624X(98)00044-4

Fatigue, 375
Ferrofluids, 421
Fiber-optic sensors, 721
Flexural waves, 995
Flow Doppler test object, 653
Focused Ultrasound, 679
Focused ultrasound surgery, 893
Fourier analysis of signals, 953
Frequency analysis, 455
Frequency domain inverse problem, 115, 643
Friction welding, 141
Fructose, 619

Gaussian beam expansion, 391
Gelation mechanism, 477
Gene therapy, 947
Glass transition temperature, 75
Graded materials characterization, 461
Grating, 865
Green's function, 349
Green-state, 121
Grinding, 273
Guided ultrasonic waves, 291
Guided waves, 147, 155

Hardness, 1013
Harmonic imaging, 695
Heterodyne interferometer, 239
Heterogeneous metal/water system, 595
Heterostructure, 403
High-speed photographs, 589
High frequency longitudinal vibration system, 67
High frequency ultrasonic plastic welding, 67
High frequency wire bonding, 59
High power ultrasound, 89
High pressure effects, 37
High speed switching, 21
High stress, 257
High temperature, 251
High temperature flow measurement, 305
Holography, 367
Hydrophone calibration, 721
Hydroxyl radicals, 615
Hyperfrequency cavity, 603
Hyperthermia, 683

Image processing, 635
Immersion transducer, 25
Impact, 171
Impulse regime, 505
Infertility, 893
Inhomogeneous materials, 449, 667
Inspection, 171
Intensive focusing, 825
Interferometry, 721
Internal friction, 435
Interstitial technique, 683
Intravascular 3D imaging, 625
Ionic mobility, 607

Kirchhoff scattering, 155

Lamb wave, 179, 791
Lamb waves, 15, 31, 147, 163
Laminar flow, 901
Langevin transducer, 75
Laser-generated cavitation, 559
Laser ultrasonics, 239, 355, 565
Laser ultrasound, 987
Layered solids, 371
Leaky Rayleigh wave, 933
Light diffraction, 775
Limited diffraction, 879
Liquid sensing, 15
Liquid temperature, 575
Lithotripsy, 679, 947
Locator, 525
Longitudinal and transversal wave velocity, 257
Low-temperature acoustics, 409
Low concentration, 283
Low frequency ultrasound, 969
Lung filtering, 703

Magnetostrictive sensor, 171
Maltose, 619
Manothermosonication, 615
Material, 251
Material characterisation, 41
Material characterization, 505
Materials characterization, 219, 435
Materials evaluation, 491
Mathematical modelling, 581
Medical diagnostics by ultrasound, 643
Melts, 251
MHz frequencies, 767
Micro acoustic waves in solids, 7
Microfabrication process, 25
Micromanipulation, 925
Micro particle trapping, 873
Microsensors, 483
Microspheres, 709
Microstructure, 813
Mindlin plate theory, 987
Modeling, 491, 783
Modelling, 239
Mode locking, 415
Moduli, 979
Molecular acoustics, 959
Motor, 103
Multilayered anisotropic structures, 343
Multilayer transducers, 969
Multiple-diffraction, 133
Multiple scattering, 443

NDE, 147, 179, 197
NDT, 361
Nematic liquid crystals, 21
Neural network, 525
Neural network analysis, 219
Non-destructive evaluation, 115, 141, 471, 803
Non-destructive testing, 209, 239
Non-linear NDE, 383
Non-linear sound reflection, 383
Nondestructive evaluation, 343, 375
Nondestructive stability measurement, 953
Nondestructive testing, 491
Nonfocal transmission microscopy, 461
Nonlinearity, 813
Nonlinear material behavior, 103
Nonlinear ultrasonics, 375
Nonlinear vibrations, 89

Observer variability, 653
One-dimensional complex vibration converter, 67
Optical beamformer, 21
Orientation, 75

Parametric interaction, 391
Particle analysis, 901
Particle separation, 925
Particle sizing, 283
Particle velocity, 751
Permittivity measurement, 603
Phase-sensitive scanning acoustic microscopy, 483
Phase contrast, 367, 461, 513
Phased array, 127
Phased array transducers, 737
Phase delay, 751
Phase locking, 53
Phase recovery, 837
Phonon flow, 403
Photoacoustics, 355
Physics of ultrasound, 879
Pickling, 79
Piezo-polymer, 15, 257
Piezocomposite, 979
Piezoelectric composites, 907
Piezoelectric element, 783
Piezoelectricity, 41
Piezoelectric motor, 103
Pipe inspection, 147
Plane transducer, 683
Plastic welding, 111
Plate, 791
Poisson's ratio, 979
Polycystic ovarian syndrome, 893
Polymer composite, 455
Polymer composites, 245
Porous materials, 759
Porous media, 477
Porous piezoelectric ceramics, 427
Power ultrasound, 589
Pressure, 607, 751
Pressure profile, 737
Pressure transducer, 559
Pressure waves, 689
Process monitoring, 263, 273
Propagation, 427
Pulse-echo technique, 233
Pulsed fields, 569
PZT imaging, 825

Range sensing, 415
Ranging, 53
Rayleigh wave, 133
Rayleigh waves, 825, 941
Real-time ultrasound, 297
Reflection coefficient, 323
Reflection coefficients, 205
Residual stresses, 1013
Resonance absorption, 421
Resonance acoustic spectroscopy, 845
Resonance scattering theory, 845
Reverberant decay, 471
RF signal, 163
Rheology, 205
Rock, 813

Rock mass, 1009
Rocks, 257
Roughness, 1013
Rough surfaces, 155

Safety, 713
Scanning acoustic microscopy, 367, 461, 513
Scanning interference fringe, 317
Scanning probe microscopes, 409
Scattering, 435
Scattering-to-attenuation ratio, 703
Scattering cross-section, 667
Schlieren imaging, 559
Second sound, 409
Semiconductor, 403
Sensors, 31
Shear horizontal waves, 31
Shear stress, 625
Shear waves, 1003
Short exposure duration, 683
Short fiber-reinforced thermoplast, 455
Short pulse method, 233
Shot peening, 1013
Si–SiO_2 interface, 1021
Signal processing, 455
Silicon, 987
Single bubble dynamics, 553
Single crystal, 987
Single powerful microwave pulses, 397
Slow wave, 759
Small receiver array, 539
Sonar, 53, 969
Sonochemical effects, 595
Sonochemistry, 581
Sonoluminescence, 569, 575
Sound, 751
Sound in liquid helium, 409
Sound speed, 767
Stable/transient cavitation, 589
Standardisation Intercomparison, 653
Standard properties, 703
Statistical analysis, 455
Statistical signal processing, 953
Steel fibre-reinforced concrete, 209
Stochastic resonance, 415
Strain, 403, 661
Stress, 791, 933
Structure characterization, 477
Superconducting magnet, 549
Superconducting rotor, 549
Surface acoustic wave, 317, 431
Surface micromachining, 25
Surface vibrations, 499
Surface waves, 229, 865
Suspensions, 283, 467
System model, 133

Temperature, 607
Temperature rise at welding surface, 59
Terephtalate dosimeter, 615
Test object variability, 653
Theory, 491
Therapy, 679
Thermal wave, 323
Thin films, 223
Three-dimensional elastic constants, 245
Three-dimensional imaging, 629
Three-dimensional ultrasound, 629
Time-of-flight diffraction, 803
Time reversal, 443
Time reversal mirror, 179
Time reversal process, 179
TiN, 223
Tissue-specific contrast, 695
Tissue ablation, 893
Tissue identification, 625
Titanium nitride, 229
Tomography, 941
Torsional transducers, 111
Torsional vibration system, 67
Transducer, 41
Transducer backing, 37
Transducers, 1, 751, 837, 907
Transient analysis of GTD, 133
Transient elastic wave, 197
Transmission, 251, 323
Transmission of vibration stress, 67
Transverse failure, 517
Transversely isotropic cylinders, 845
Triangular grooves, 865
True 3D reconstruction, 625
Two-layered materials, 239
Two-vibration-system plastic welding, 67

Ultrasonic, 1
Ultrasonic air-coupled transducers, 361
Ultrasonic B-scan, 455
Ultrasonic cutting, 89
Ultrasonic field mapping, 775
Ultrasonic force microscopy, 317
Ultrasonic imaging, 297
Ultrasonic immersion technique, 245
Ultrasonic interaction, 343
Ultrasonic interferometry, 415
Ultrasonic machining, 97
Ultrasonic microspectrometer, 317
Ultrasonic nondestructive evaluation, 845
Ultrasonic phased array, 21
Ultrasonic physiotherapy systems, 713
Ultrasonic plastic welding, 67
Ultrasonic polishing, 97
Ultrasonic radiation force, 925
Ultrasonic reflection, 283
Ultrasonics, 187, 603, 813, 837, 1003
Ultrasonic scanning, 531
Ultrasonic standardisation, 713
Ultrasonic testing, 141
Ultrasonic tomography, 297
Ultrasonic transducer, 233, 513
Ultrasonic transducers, 37
Ultrasonic traveling waves, 873
Ultrasonic treatment, 1013, 1021
Ultrasonic velocity, 619
Ultrasonic wave, 75
Ultrasonic waveform, 565
Ultrasonic wave propagation, 209, 759
Ultrasonic wave pulses, 879
Ultrasonic welding, 111
Ultrasonic wire bonding, 59
Ultrasonography, 629
Ultrasound, 79, 491, 607, 661, 667, 709, 883, 907
Ultrasound-adverse-effects, 947
Ultrasound absorption, 959
Ultrasound diagnostics, 695
Ultrasound dispersion, 959
Ultrasound imaging, 629
Ultrasound in air, 513
Ultrasound measurement, 721
Ultrasound phantom, 679
Ultrasounds, 205
Ultrasound spectroscopy, 233
Ultrasound standing waves, 901

Velocity of sound, 233
Vertical attenuation, 941
Vibration distribution along ceramic capillary, 59
Vibration measurements, 391
Vibro-impact systems, 89
Viscoelastic and anisotropic materials, 361
Viscoelasticity, 1003
Viscosity, 483, 607
Void rate, 603

Water vapour, 575
Wavelet transform, 141
Wave propagation, 449
Welding, 75
Wideband beamforming, 879
Wood, 219, 813

X-ray diffraction, 403